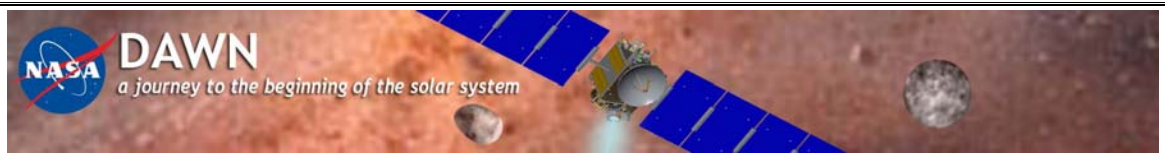



**NASA's Dawn Mission**

# Middle School Teachers

***Find a Meteorite* Field Study**

## Introduction

In 2006, NASA's Dawn mission will begin its trek to investigate Ceres and Vesta, two of the largest protoplanets remaining intact since their formations. The mission will address the role of size and water in determining the evolution of the planets by measuring their mass, shape, volume, and spin rate with imagery, laser altimetry, and gravity. Through this investigation, scientists aim to characterize the conditions and processes of the solar system's earliest epoch.[1]

The Education and Public Outreach (E/PO) for the Dawn mission consists of a national team of E/PO specialists from the University of Maryland, New Roads Schools in California, and Mid-continent Research for Education and Learning (McREL). In support of the Dawn mission, this team develops and disseminates high quality resources and materials that reflect "best practices" in education. As such, Dawn E/PO curriculum materials are standards-driven, pedagogically appropriate, and designed to meet the needs of all students, including disadvantaged and underserved. Through their educational resources and materials, the Dawn E/PO team aims to improve students' understanding of the formation of the solar system, interest in solar-system science, and opportunities to conduct science within real-life contexts. The Dawn E/PO effort also intends to help science educators gain a better understanding of how to implement inquiry processes that lead to improved practices.

## *Find A Meteorite* Description

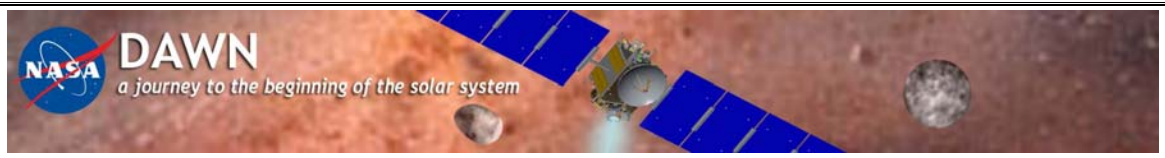
The *Find a Meteorite* activity introduces the importance of meteorites to the understanding of the origin of the solar system. Since scientists believe that some meteorites are pieces of the asteroid Vesta, they may be very old remnants of the solar system in its earliest stages. The activity provides information and insight that allows participants to share scientists' expectations, based on meteoritic samples, of what we will find when the NASA's Dawn Mission visits Vesta and Ceres. Comparison between actual data and the meteorites here on earth may confirm that we are in possession of very valuable material indeed. The hands-on activity is an introduction to meteorite identification that aims to help learners differentiate between meteorites, and terrestrial rocks. Students as young as 10 will find the exercise interesting. The Web-based activity http://dawn.jpl.nasa.gov/Meteorite/index.asp is a simplified version of the hands-on activity, and can be used to augment the hands-on activity.

## Study Purpose

The purpose of this pilot study is to ensure that the Dawn E/PO curriculum materials are of high quality and utility and reflect the needs of formal and informal science educators. This study will allow the Dawn E/PO team to pilot the *Find a Meteorite activity* and identify any content, implementation, or design issues that will inform material modifications prior to undertaking field testing. Although the pilot study will address the impacts of the materials on student learning, it focuses mainly on generating information that will be useful for the design and implementation of a future field test.

---

[1] Dawn: A Journey to the Beginning of the Solar System (2002). The online site for the Dawn mission. Retrieved from the World Wide Web, June 5, 2003, http://www-ssc.igpp.ucla.edu/dawn/.




**Design**
Informal and formal educators that work with middle-school students, preferably grade 8, are being recruited for this pilot study. Pilot-test participants will use the *Find a Meteorite* activity according to specified implementation guidelines and will complete the data collection instruments. The following data collection methods will be employed for the pilot study:

- Knowledge, skill, and interest student assessment (developed by McREL)
- Educator implementation survey
- Educator and student demographics

In recognition of their participation, educators will receive designation as a NASA E/PO Field Associate. No student or educator names will be used in reporting. All data will be reported in aggregated form, and no individual student data will be reported.

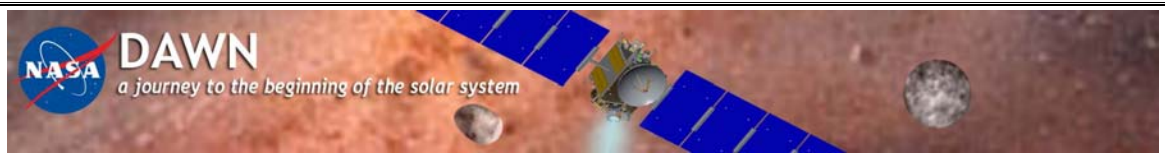
**Contact Information**
For information regarding the pilot study contact:

Dr. Stephanie Baird Wilkerson
Dawn E/PO Principal Evaluator, McREL
540.967.5540
sbaird-wilkerson@mcrel.org

For information regarding Dawn E/PO materials and resources contact:

Joe Wise
Dawn E/PO Manager, New Roads School
310.828.5582
jwise@newroads.org

John Ristvey
Dawn E/PO Lead Consultant, McREL
303.632.5620 or 800.337.0991
jristvey@mcrel.org




# FAX

LETTER OF INTEREST
FOR THE Dawn E/PO FIELD FAM TEST

TO: Stephanie Baird Wilkerson, Ph.D. C/O Dawn Fries
FAX #: 303.337.3005

DATE: _____

FROM: _____
SCHOOL/DISTRICT: _____
PHONE: _____
ADDRESS: _____
EMAIL: _____

Dr. Baird-Wilkerson:

We are very interested in participating in a field test of the Dawn E/PO supplemental science materials. We look forward to working closely with Mid-Continent Research for Education & Learning (McREL) and the Dawn E/PO team to determine whether our site will be one of the final sites chosen to participate in this study.

Sincerely,

Please answer the following questions:

1. Are you a representative of your school or district? ❑ school ❑ district
2. How many teachers teach science at your site? ___ teachers
3. How many teachers are interested in field testing the materials at your site and what grades do they teach? ___ teachers _____ grades
4. What is the demographic location of your school?
   ❑ Urban ❑ Rural ❑ Suburban ❑ Other _____
5. If you are representing your school, who can we contact at the district to discuss this study?
   Contact name: _____
   title: _____
   phone: _____
   e-mail: _____